CLAIMS

What is claimed is:

1. A method for detecting and correcting for losses influencing a signal being radiated, in electromagnetic wave form, to a first communications station from a second communications station, to provide a more accurate signal quality value determination of said signal , said method comprising:

using said first communications station to receive said signal transmitted from said second communications station;

adding a quantity of noise to said signal received by said first communications station to produce a composite signal having a known operating point;

monitoring a beacon signal from said second communications station to determine a transmission loss affecting said signal as said signal is transmitted from said second communications station to said first communications station; and

using said transmission loss, said quantity of noise and said composite signal to extrapolate a signal quality value for said signal transmitted by said second communications station.

2. The method of claim 1, wherein using said first communications station to receive said signal comprises transmitting said signal from a satellite based transponder to said first communications station.

3. The method of claim 1, wherein using said first communications station to receive said signal comprises using a terrestrial based communications station to receive said signal.

4. The method of claim 1, wherein adding a quantity of noise comprises adding a quantity of noise having a frequency within a range of between about 950 MHz – 1450 MHz.

5. The method of claim 1, wherein monitoring said beacon signal comprises using a beacon receiver to monitor said beacon signal to determine therefrom downlink losses of said signal for use in determining said signal quality value.

6. The method of claim 1, wherein an absolute value of said transmission loss is used in determining said signal quality value.

7. A method for detecting and correcting for atmospheric losses influencing an Eb/No value of an information signal being radiated, in electromagnetic wave form, to a communications station from a satellite based transponder, to provide a more accurate Eb/No value determination of said signal, said method comprising:

using said communications station to receive said information signal transmitted from said satellite based transponder;

adding a quantity of noise to said information signal received by said first communications station to produce a composite signal having a known operating point;

determining a composite Eb/No value from said composite signal;

monitoring a beacon signal from a satellite associated with said satellite based transponder to determine a transmission loss affecting said information signal caused by atmospheric conditions, and generating a downlink loss value representative of said transmission loss; and

using said downlink loss value, said quantity of noise and said composite signal to extrapolate a corrected Eb/No value, said corrected Eb/No value having an influence of an atmospheric loss removed therefrom.

8. The method of claim 7, wherein adding a quantity of noise comprises adding a quantity of noise having a frequency within a range of between about 950 MHz - 1450 MHz.

9. The method of claim 7, wherein using said communications station comprises using a terrestrial based station to receive said information signal.

10. The method of claim 7, wherein extrapolating said corrected Eb/No value comprises using a computer to determine said corrected Eb/No value.

11. A method for compensating for losses affecting a signal being transmitted, in electromagnetic wave form, from a second communications station to remotely located first communications station, the method comprising:

adding a known quantity of noise to a signal transmitted from said second communications station and received by said first communications station;

determining an aggregate loss affecting an accuracy of a Eb/No measurement of said signal; and

using said known quantity of noise and said aggregate loss to determine a corrected Eb/No value for said signal.

12. The method of claim 11, wherein determining an aggregate loss comprises determining an atmospheric induced loss affecting said signal.

13. The method of claim 11, wherein determining an aggregate loss comprises determining a loss induced by receiving equipment of said first communications station.

14. The method of claim 11, wherein inducing a known quantity of noise comprises inducing noise having a frequency of between about 950 MHz - 1450 MHz.

15. The method of claim 11, wherein determining said corrected Eb/No value comprises using a computer to determine said corrected Eb/No value.

16. The method of claim 11, wherein determining an aggregate loss comprises using a beacon receiver to receive a beacon signal from said second communications station and determining therefrom a magnitude of atmospheric induced loss affecting said signal.

17. A system for correcting for losses affecting a signal being transmitted, in electromagnetic wave form, from a second communications station to a first communications station, comprising:

a subsystem for generating a known quantity of noise to be added to a signal transmitted from said second communications station;

a combiner for combining said known quantity of noise with said signal to produce a composite signal;

an attenuator for receiving said composite signal and defining a known operating point for said composite signal;

a receiver for monitoring a downlink loss affecting said signal; and

a computer for using said quantity of noise, said composite signal, said downlink loss and said operating point to extrapolate a signal quality value, said signal quality value representing a measurement of a quality of said signal having said losses removed therefrom.

18. The system of claim 17, wherein said subsystem for generating a known quantity of noise comprises a noise source for generating a noise signal having a frequency between about 950 MHz – 1450 MHz.

19. The system of claim 18, wherein said subsystem for generating a known quantity of noise further comprises a local oscillator and mixer.

20. The system of claim 17, wherein said first communications station generates said signal as comprised of one of a horizontally polarized signal component and a vertically polarized signal component.

21. The system of claim 20, further comprising a splitter for splitting said known quantity of noise such that a sub quantity of said noise is separately applied to each of said horizontally and vertically polarized signal components of said signal.

22. The system of claim 20 further comprising a separate attenuator for each of said vertically and horizontally polarized signal components, for defining said known operating point.

23. The system of claim 17, further comprising a signal splitter for dividing said signal into a first component and a second component, said first component being input to said receiver.

24. The system of claim 23, wherein said second component is input to said combiner to be combined with said known quantity of noise.

25. The system of claim 17, further comprising a demodulator responsive to said known quantity of noise and said composite signal for generating said signal quality value.